

DESCRIPTIONS OF SOME NEW SPECIES OF PLANTS  
FROM NEW SOUTH WALES.

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(Plates L.-LIII.)

LEGUMINOSÆ.

DAVIESIA RECURVATA, sp.nov.

(Plate L.)

A small shrub with erect branches, hirsute, branchlets terete, *not slender*.

Leaves very rigid, small, appressed, numerous, lanceolate, articulate, thick with recurved margins, the midrib only showing at the base on the underside, acuminate, gradually tapering to a straight rigid pungent point; usually about 2 lines long, rarely 4 lines, mostly under a line in breadth, often glabrous on the underside which has a scurfy appearance; the hairs on the upper surface have a basal gland.

Flowers solitary or clustered on filiform pedicels, either shorter or longer than the leaves. Bracts prominent.

Calyx under 1 line long, the turbinate base short, teeth not long, the two upper ones truncate and rather broader than the others, united at the base. Standard about  $1\frac{1}{2}$  times as long as the calyx, dark coloured. Keel short, incurved.

Pod not seen.

Analysis showing its relation to cognate species:—

*D. filipes*. Branches hirsute. Leaves oblong or oval-oblong, not reticulate, straight-pointed, under  $\frac{1}{2}$  in. *Shortly* pungent-pointed. Bracts very small.

*D. recurvata*, sp.nov. Branches hirsute; leaves lanceolate, much acuminate, recurved margins under 4 lines (mostly 2); bracts prominent.

*D. squarrosa*. Leaves cordate, ovate, much acuminate, usually under  $\frac{1}{2}$  in. long; pedicels filiform.

This species differs from *D. filipes* with which it has greatest affinity, principally in having more acuminate and smaller leaves, with revolute margins; also in its smaller flowers, and in the upper teeth of the calyx being scarcely if at all united, as well as in possessing prominent bracts.

The calyx is similar to that of *D. squarrosa*, but the leaves entirely differ from that species.

*Hab.*—Taloobie, Bylong Creek, Goulburn River, N.S.W. (R.T.B.)

We have proposed the specific name from the recurved margins of the leaves.

ACACIA BAEUERLENI, sp.nov.

(Pl. LI.—right division.)

A shrubby *pubescent* plant of about 3 to 7 ft. as seen; generally 3 to 5 ft., throwing out numerous “switch-like” branchless stems *from the ground*.

Branchlets few, hoary pubescent, angular, mostly subtended by a phyllode, with very prominent decurrent lines.

Phyllodia rigid, mostly about 6 inches long, narrowed at both ends, terminating in a straight recurved pungent point, broadest in the middle, where they are 4 to 5 lines broad, rarely slightly inclined to falcate, coriaceous; veins parallel, numerous, very prominent on both sides, 3 or 4 more distinct than the others, the finer veins occasionally anastomosing. Gland slightly removed from the base, not prominent. Stipules small, about 1 line long, deciduous.

Peduncles solitary, opposite, about 9 lines long, pubescent, bearing a comparatively large, dense, globular head of from 30 to 40 flowers, closely packed, the calyces almost cohering, mostly 5-merous.

Calyx turbinate, lobes obtuse, ciliate, less than half as long as the corolla, more or less hairy, eventually separating into spathu-

late distinct sepals. Petals glabrous, often with red markings. Stamens long and very numerous, filaments white, anthers green.

Pod straight,  $3\frac{1}{2}$  to 4 lines long, 3 to 4 lines broad, pubescent, the margins thickened, white and nerve-like.

Seeds oblong, longitudinal, funicle folded 3 or 5 times on itself, and not thickened under the seed.

*Hab.*—New Italy, N.S.W. (W. Baeuerlen).

Analysis showing affinities to and differences from cognate species :—

Phyllodia linear-lanceolate, 3- or more nerved. Petals smooth or with prominent midribs.

Sepals united. Seeds longitudinal. Peduncles short. Phyllodia under 3 lines.

Pod curved ..... *A. lanigera.*

Peduncles long. Seed oblique and longitudinal. Phyllodia 5 to 6 ". Pod straight, funicle 4 fold, not thickened under the seed.....

*A. Baeuerleni.*

Peduncles short. Seed oblong, oblique, transverse. Phyllodia  $1-1\frac{1}{2}$ " long, funicle 4 to 5 folds, not thickened.....

*A. phlebocarpa.*

Peduncles short (3"). Seeds compressed globular, longitudinal, funicle 1 fold, thickened under the seed .....

*A. Simsii.*

We have placed this *Acacia* in the *Pungentes* series of Bentham, and, if rightly so classified, it stands alone in the length and size of its phyllodes, which far exceed in length and breadth that of any other species of the group.

The pungent point of the phyllodes is not always straight, but generally so, and as the phyllodes are certainly rigid, these two points decided us in preferring to place it in the *Pungentes* to the *Plurinerves*.

It bears a general resemblance to *A. Simsii* (Fig. Muell. Ic. Aust. Acacias) and perhaps also to *A. lanigera*, except for the larger phyllodes.

The venation is certainly more like that of the latter species, as is also the vestiture, but the long peduncles, phyllodes and straight pod remove it far from that species. If there were any varietal forms it might perhaps be made a variety of *A. lanigera*, but as specimens of that species obtained from the interior of the Colony and from many parts of the Dividing Range show no perceptible variation, it is impossible to look upon our plant as a variety. We may also mention that the sucker or switch-like appearance of the stems of *A. Baeuerleni* in no way resembles the close thickset shrub *A. lanigera*. The bracteoles appear also to be wanting or are very deciduous.

The individual flowers and head are also larger than those of *A. lanigera*, while the stamens have white filaments and light yellow anthers.

The pods also show no tendency to curve.

Had it come under the *Plurinerves*, then its affinities would be with *A. elongata* and *A. Simsii*, from which species it differs mostly in the shape of the phyllode, length of peduncle, calyx, and shape of seed and aril.

*Dedication*.—This species is named after Mr. William Baeuerlen, the painstaking botanical collector of the Technological Museum.

ALBIZZIA (PITHECOLOBIUM) MUELLERIANA, sp. nov.

(Pl. LII.)

A tree glabrous in all its parts, height about 50 to 70 feet, as seen, diameter 2 feet, locally known as "Ash."

Pinnæ one pair, rarely two pairs, the common petiole mostly under one inch, each rhachis often short, rarely exceeding two inches. Gland wanting. Leaflets glabrous, usually one pair subtended by an odd one, exceptionally composed of three or four leaflets irregularly placed along the rhachis, ovate acuminate, obtuse, or oblanceolate, acuminate, the cuneate base narrowing into a distinct hairy or pubescent petiolule, articulate with the rhachis; 1 to 5 inches long, reticulately penniveined on both sides, but much more prominently so on the underside, paler above.

Panicles in the upper axils or loosely racemose, exceeding the leaves; peduncles flat or angular. Flowers up to about 15 in globular umbels, sessile. Calyx glabrous, 2-3 lines long, shortly toothed, ciliate, campanulate or cylindrical. Corolla exceedingly short in the bud, glabrous, 2-3 lines long, equally 5-lobed. Stamens green, united below the lobes, 9 lines long. Pistil glabrous. Style elongated, 1 inch long. Ovary surrounded at the base by a cup-shaped gland.

Pod *thick, fleshy, terete*, 2 to 4 inches long, 3 to 4 lines broad, twisting when perfectly ripe and eventually becoming very hard, valves dark red outside, orange-coloured inside.

Seed black, imbedded in the thick fleshy interior of the pod, about 2 or 3 lines long.

*Hab.*—Marshall Falls, Alstonville, and also Tintenbar, Richmond River; also Mullumbimby, Brunswick River, N.S.W. (W. Baeuerlen).

This species has closest affinity with *Albizzia* (*Pithecolobium*) *Hendersoni* and *A. ramiflora*—a specific name, by the way, which would apply equally well to all our *Pithecolobiums* and *Albizzias*.

It is distinguished from the former species by its fewer leaflets, which are not at all oblique and are of a much thinner texture and of a lighter colour; the stamens also are shorter.

From *A. ramiflora*, with which it has closest affinity, it is not so easily distinguished, as the description of that species is from imperfect material. It, however, differs from it principally in the size of leaflets and flowers and the petioles not being decurrent.

It can be recognised from *A. pruinosa* by its sessile flowers and fewer and larger leaflets.

The most remarkable feature about this species is the full development of the calyx before the appearance of the corolla, which at its maturity about equals the calyx in length. This fact does not appear to have been recorded in any of the published descriptions or delineations of Australian species.

The following analysis will show its relative position:—

*A. Hendersoni.* Leaflets very oblique, flowers on very short stalklets, corolla twice as large as the calyx.

*A. Muelleriana*, sp.nov. Leaflets distinctly petiolate *articulate*, equal-sided, ovate acuminate, corolla shorter than the calyx. Style under 1 inch.

*A. ramiflora*. Leaflets large, obovate, *shortly decurrent*, corolla very long. Style 4 inches long.

*Dedication*.—In honour of Baron Sir Ferdinand von Mueller, K.C.M.G., the distinguished Government Botanist of Victoria.

We have used the generic term *Albizzia* instead of *Pithecolobium* in deference to the advice of Baron von Mueller, who writing us on the subject, says :—

“If you look through the Iconography of Australian Acacias and allied genera, you will find that the characters, on which *Pithecolobium* by my celebrated friend Martius was founded, find their counterpart in *Acacia*, and that accordingly also from *Acacia* a number of species would on the same grounds require to be separated. Indeed *Vachellia* has been distinguished by a pithy pod for *A. Farnesiana*, but by common consent *Vachellia* became discarded. It was not on light considerations that I overthrew in the Journal of Bot. for 1872 *Pithecolobium*, at all events for the *Asiatic* and Australian species, there being absolutely no difference between these genera. Whether *Pithecolobium* can be maintained for any S. American species I cannot positively assert. It was founded on species with somewhat succulent pods, such as the monkeys there feed on. Hence the name. But no difference in other respects seems to occur among the *Albizzias* of the eastern and western world. Furthermore, the well known genus *Gleditschia* in Leguminosæ contains species with dry and succulent legumens. What I said of *Gleditschia* applies similarly to the still closer allied genus *Prosopis*.”

#### COMPOSITÆ.

##### PODOLEPIS RUBIDA, sp.nov.

A slender, glabrous (or slightly woolly at the base) divaricate perennial, from 1 to 3 or more feet in height.

Leaves linear, 2 inches long at the base and decreasing in size on the stems on some specimens, while in others 4 inches long at the base, decreasing to 2 inches long on the stem, the upper ones stem-clasping and decurrent, tapering from the base upwards, margins recurved, glabrous above, woolly underneath, but midrib prominent, basal leaves with a loose cottony down.

Flower heads small, on filiform peduncles. Involucre hemispherical, rarely exceeding 3 lines, the scarious laminae of the bracts rugose, imbricate, ovate or acuminate, decurrent on the whole length of the claw of the inner row of bracts; the claw of the outer bract very short but gradually lengthening to a long linear one on the penultimate or innermost row but one; the claws glandular. Florets yellow, all exceeding the involucre, the outer ones about 3 lines long, ligulate, *shortly 3- or 4-lobed*.

Pappus bristles fine, not thickened upwards, shortly barbellate. Achenes glabrous.

*Hab.*—Bathurst, N.S.W. (W. J. C. Ross).

Analysis showing differences from cognate species:—

Involucre large, laminae very acute  
acuminate, not rugose. Stem  
leaves slightly decurrent, basal  
leaves oblong lanceolate ..... *P. acuminata*, R.Br.

Involucre small, about 3 lines, outer  
laminae very obtuse, inner ones  
acuminate, *rugose*, stem leaves  
decurrent, basal leaves linear ... *P. rubida*.

Involucre 6-8 lines, laminae very  
acute, not rugose; annual..... *P. canescens*, A. Cunn.

It is not easy to indicate the relative position of this species in Bentham's classification of *Podolepis*. It is placed between the two above mentioned species, but it could with perhaps equal fitness be also placed between *P. Lessoni* and *P. Siemssenia*. The large flowers and large basal leaves of *P. acuminata* at once separate it from that species, as do also the acute laminae and deep incision of the ray florets.

It is easily recognised from *P. canescens* by its obtuse laminae and smaller involucre as well as by the shape of the leaves, and in being a much slender and taller plant, and almost glabrous.

Of all the species in this genus it has the greatest superficial resemblance to *P. Lessoni*, and could easily be mistaken for that species, its chief characteristic difference being its much longer and decurrent linear-lanceolate leaves, rugose scarious laminae, and the presence of the basal bracts of the involucre.

*P. Siemssenia* stands apart from it principally by its decurrent, smooth laminae; "not perceptibly barbellate pappus-bridles;" smaller non-decurrent stem leaves; absence of scarious scales on the peduncles and its shining bracts.

Its specific name has reference to the colour of its stems.

#### HELICHRYSUM TESSELATUM, sp. nov.

(Plate LIII.).

An erect shrub of several feet, often with thick stems which always retain the prominent decurrent lines of the leaves, the branches closely woolly tomentose.

Leaves narrow-linear with recurved or revolute margins, about  $\frac{3}{4}$  of an inch long including the decurrent part, which equals about half its entire length, woolly tomentose underneath, smooth and shining above, rarely with any asperities, obtuse or with a recurved point.

Flower heads numerous, larger than those of *H. diosmifolium*, in rather loose terminal corymbs, sometimes measuring 4 to 5 inches.

Flower heads straw-coloured on woolly white, stouter pedicels than the allied species, larger and less numerous than those of *H. diosmifolium*. Involucre hemispherical or ovoid-turbinate, 3 lines in diameter, or a shade longer than broad, the bracts obtuse, concave, compact, straw-coloured, with spreading tips, the outer ones slightly woolly below the scarious tips. Florets about 35 to 40, a few of the outer ones females.



Achenes hairy. Pappus-bristles slender, serrulate, not thickened upwards.

*Hab.*—Bylong, Murrumbo (Goulburn River), N.S.W.

Analysis showing differences from allied species:—

Involucral bracts more or less scarious, obtuse, without any or with scarcely conspicuous white tips.

Involucre ovoid-turbinate. Florets above 15. Achenes glabrous or papillose.

Leaves not decurrent..... *H. cinereum*.  
 „ shortly decurrent ..... *H. bracteolatum*.  
 „ much decurrent... .. *H. tessellatum*.

(The specific name being given in allusion to the strikingly tessellated appearance of the stem, owing to the scars of the bases of the leaves).

This species when first seen in the field has the general facies of *H. diosmifolium*, but its specific differences are readily apparent.

The long, prominent persistent decurrent lines on the old stems, its scarious yellow bracts and larger flowers at once establish its identity.

It approaches slightly *H. adnatum* in having the raised decurrent lines persistent after the leaves have fallen, but its larger flower heads and the more numerous florets, scarious and spreading tips and also the larger and thicker leaves easily distinguish it from that species.

Its nearest affinity is perhaps with *H. bracteolatum*, but this species has *shortly* decurrent leaves and only 15 to 20 florets.

#### HELICHRYSUM BREVIDECURRENS, sp. nov.

A tall, heath-like shrub, in general appearance resembling *H. diosmifolium*, the branches and underside of the leaves cottony white.

Leaves narrow linear with a recurved point, revolute margins which are decurrent on the stem but not so much as *H. decurrens*,

shining above, but with less asperity than *H. diosmifolium*, about 6'' long, cottony white underneath.

Flower heads hemispherical or slightly turbinate, rather larger than those of *H. diosmifolium* but less than those of *H. decurrens*, numerous in a terminal corymb.

Involucre *hemispherical*, under 2 lines in diameter, the bracts obtuse, concave, all the outer ones scarious, straw-coloured, with scarcely spreading tips, the inner circle yellow with paler tips. Florets about 25-30. Achenes hairy. Pappus-bristles serrulate, not thickened upwards.

*Hab.*—Murrumbo, Goulburn River, N.S.W.

Analysis to show cognate species:—

Involucral bracts with concave, erect or loose but *not spreading* obtuse tips, all or the inner ones white or pink.

Leaves not decurrent Florets 20 ..... *H. diosmifolium*.

Involucral bracts more or less scarious, obtuse, without any or with scarcely conspicuous white tips.

Involucre *ovoid-turbinate, narrow*.

Florets about 15. Leaves shortly decurrent ... ..... *H. bracteolatum*.

Involucre hemispherical. Florets

25 to 30. Leaves shortly decurrent ..... *H. brevidecurrens*.

Involucre hemispherical. Florets

35 to 40. Leaves very decurrent ..... *H. tessellatum*, sp.nov.

As will be seen in the analysis, it has greatest affinities with *H. bracteolatum*, whilst it also approaches *H. tessellatum* in the general resemblance of the involucre, but differs from it in the shortly decurrent and more numerous leaves and smaller flower heads. From *H. adnatum* it is distinguished by the shape of the involucre and number of florets, and the pappus-bristles being not thickened upwards, and its larger heads.



## BIGNONIACEÆ.

## TECOMA BAILEYANA, sp.nov.

(Pl. LI.—left division.)

A tall woody climber, glabrous. Leaves pinnate with 7 to 9 leaflets, sometimes exceeding 2 feet, opposite or in whorls of 3 or 4, petiole 3 inches long.

Leaflets oblique, usually 7 but sometimes 9, large, about 5 inches long and over 2 inches broad, ovate acuminate, rounded at the base or shortly tapering into an exceedingly short petiole, pale coloured underneath, reticulations very prominent below but less marked above, margins slightly recurved, articulate on the rhachis.

Flowers in axillary racemes or interrupted spikes from 3 to 15 inches long of a cream colour, but touched inside on the lobes and throat with a delicate shade of pink. Calyx glabrous, 5-toothed, of a purplish-brown colour. Corolla-tube incurved, 6 lines long, not dilated upwards, but perfectly cylindrical, covered inside and out with minute glandular hairs or processes very numerous on the lobes; the lobes almost equal, acuminate-obtuse. Stamens 4, in pairs included in the tube. Pistil longer than the stamens, style with 2 short ovate stigmatic lobes.

Capsule unknown.

*Hab.*—Mullumbimby Creek, Tweed River, N.S.W. (W.B.)

Analysis showing the differences of this plant from cognate species:—

Flowers in a long raceme or spike,  
corolla incurved, not dilated up-  
wards, 1 line in diameter. Leaf-  
lets about 5 inches ..... *Tecoma Baileyana.*

Flowers in a loose panicle, corolla  
slightly incurved and dilated up-  
wards, 3 lines in diameter, leaflets  
variable, not exceeding 3 inches . *T. australis.*

Flowers compact, corymbose, corolla  
about 1 inch in diameter..... *T. jasminoides*.

Corymbs of 6 to 8 flowers, corolla about  
2 inches long, purplish ..... *T. Hillii*.

The small tubular cream-coloured flowers of this species give it an appearance quite distinct from the other well-known Australian *Tecomas*, so that it is very easy to recognise in its native habitat.

Our idea to make this a variety of *T. australis* was overcome by the fact that *T. australis* with all its variations of foliage preserves, wherever found, a very constant flower, which is very distinct from this new species.

As *T. australis* is also found at Mullumbimby, it can readily be compared on the spot with the new species.

Besides its distinctive flowers the foliage is also characteristic. The foliage of *T. australis* with all its variations of coast, tableland and far interior specimens in no way resembles the large, coriaceous leaflets of this new species.

The calyx of purplish-brown may also be noticed.

We regret that we have not succeeded in obtaining the fruit, but there appears very little hope of obtaining any from the plants from which this diagnosis is made, as they are so situated on a vertical bank that all the fruit must inevitably fall into Mullumbimby Creek.

Discovered on the banks of Mullumbimby Creek by W. Baeuerlen, and who, although collecting systematically in this district for over four years, has only seen one plant.

Named in honour of Mr. Fred. Manson Bailey, F.L.S., the Government Botanist of Queensland.

EXPLANATION OF PLATES.

Plate L.

*Daviesia recurvata.*

- Fig. 1.—Flowering twig.
- Fig. 2.—Individual flower.
- Figs. 3 and 4.—Standard.
- Fig. 5.—Keel.
- Fig. 6.—Wing.
- Fig. 7.—Pistil.
- Fig. 8.—Leaves.

All enlarged except No. 1.

Plate LI.—right division.

*Acacia Baeuerleni.*

- Fig. 1.—Flowering twig.
- Fig. 2.—Bud.
- Fig. 3.—Individual flower.
- Fig. 4.—Pistil.
- Figs. 5, 6, 7.—Bracts.
- Fig. 8.—Pod showing seed *in situ*.
- Fig. 9.—Portion of phyllode magnified.

All enlarged except Figs. 1 and 8.

Plate LII.

*Albizzia (Pithecolobium) Muelleriana.*

- 1.—Foliage.
- 2.—Flowering twig.
- 3.—Individual flower.
- 4.—Pistil and gland.
- 5.—Immature pod with part of valve removed to show seeds *in situ*.
- 6.—Ripe pod—seeds removed.

Plate LIII.

*Helichrysum tessellatum.*

- Fig. 1.—Flowering specimen.  
Fig. 2.—Floret.  
Fig. 3.—Section of upper part of floret tube.  
Fig. 4.—Pistil.  
Fig. 5.—Bracts.  
Fig. 6.—Portion of stem showing decurrent margins of the leaves on it.  
All enlarged except Figs. 1 and 6.

Plate LI.—left division.

*Tecoma Baileyana.*

- Fig. 1.—Flowering raceme.  
Figs. 2, 3, 4, 5.—Individual buds and flowers.  
Fig. 6.—Section of corolla, showing disposition of pistil and stamens  
(enlarged).  
Fig. 7.—Part of leaf showing leaflets.